

few cases blood-letting, an operation which nature frequently accomplishes by epistaxis. This condition must not be confounded with that form of hyperæmia sometimes met with in advanced stages of fever, in the adynamic or typhoid condition; whether bilious, remittent, typhoid, typhus, or continued (Synochus); as in almost all these the congestion is passive, or venous.

The last point to be adverted to is that form of hyperæmia found in general paralysis of the insane, in which the arterioles are most probably in a state of moderate or slight spasm; they thus at all times contain a larger amount of blood than natural. As this form of disease has generally proved fatal, it has been very fully investigated, and is still being investigated by numerous physicians of lunatic asylums, to whose reports the reader is referred.

The general subject of hyperæmia is sufficiently discussed in the text-books, and if the results of hyperæmia in other organs be transferred, *mutatis mutandis*, to the brain, the results of hyperæmia of this organ will be at once intelligible—vide Hammond and Niemeyer.

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ART. VII.—A CASE OF TRAUMATIC TETANUS  
TREATED WITH LARGE DOSES OF TINC-  
TURE OF ACONITE. RECOVERY.

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I was called September 8th, 1876, to see the son of Thos. Stein, a German, aged 14 years, who had received a wound in the ball of the left foot, made by a manure fork.

The history of the case as obtained from his parents, was that the wound had been made one week previous to the time I was sent for; they had paid but little attention to the child as they did not think the wound serious. On the 6th, two days

prior to my visit, he was unable to open his mouth, and his neck was stiff.

Upon examination, I found well-marked rigidity of the muscles of the neck and jaws, and the risus sardonius was characteristic. He was unable to turn his head or to separate his jaws. The muscles of the abdomen were very tense; he complained of great pain in the neck and back; had not slept any for two nights. His only comfort was when placed in an easy chair. His bowels were constipated; tongue furred; pulse, 120; temperature of the body 104° Fahrenheit; difficult respiration; twitching of the thighs, and on raising him up he had a severe spasm, with well-marked opisthotonos. The condition of the eyes indicated that the third cerebral nerve was involved, shown by the fact that the muscles which are supplied by this nerve became tetanic and caused retraction of the globe so deeply in the orbit, that the eye was almost lost to view. The wound in the foot presented an unhealthy appearance, resembling hospital gangrene, and was not unlike it in smell. To this I applied dilute carbolic acid. As I never had treated successfully a case of tetanus, I was quite anxious in regards to this one. The plan of treatment which I determined to pursue in this case, was the administration of aconite; a tincture of which was prepared by my friend, Mr. Jacob, who is a thoroughly educated druggist, and therefore the drug could be relied on as being good. The doses given at first was *eight minims* every two hours, this was continued for two days without any perceptible impression from the medicine or any mitigation of the symptoms.

10th. I found the bowels constipated. I ordered castor oil and turpentine, and tinct. belladonna was applied along the spine. The tinct. aconite was increased to *twelve minims* every two hours. The diet ordered was the most nourishing that could be taken. Strong beef-tea, brandy, etc.

11th. The bowels had been opened by the oil and turpentine. Patient slept some during the night; the pulse 100; temperature of the body 102. At times he complained of great pain in the abdomen. Upon raising him up his breathing would become hurried and short. This was owing to the imperfect action of the muscles of the chest, producing the

most painful dyspnœa, which was relieved by laying him back in his chair. Continued the aconite.

12th. Passed a restless night; tongue covered with a dirty fur; pulse 110. I gave him, at this visit, sub. mur. hyd., gr. viij; pulv. opii., gr. ii; pulv. ipecac, gr. iii; misce, divid. tr., 3 powders; one given once in 3 hours, followed by castor oil and turpentine. The aconite was continued.

13th. He had rested more quietly after the action of the oil; relished his beef-tea; the wound in the foot more healthy. I directed that they should continue the aconite.

14th. General improvement in all the symptoms. He could be moved without producing much pain. Had slept quietly during the most of the night; pulse, 90; temperature of the body, 98. I ordered that the aconite should be continued, twelve minims, once in two hours. Discontinued the use of the belladonna to the spine.

15th. At this visit it was evident that the aconite had begun to take effect. He rested well during the night; had no return of the spasms; the expression of the face improved; he could move the head a very little; the jaws could be opened about half an inch.

16th. Feels more comfortable; no pain; the expression of the face more natural. From this time forward there was marked improvement in all the symptoms. In the course of five days the spasms and opisthotonos ceased; there was no twitching in the lower extremities. I continued the aconite in the same doses once in four hours, except when he was asleep, up to Oct. 1st, after which time the doses were gradually decreased to October 12, at which time the face had almost regained its natural expression; he could open his mouth about half an inch, and could sit up and take his meals at the table. His convalescence, though slow, has been gradually progressing, and he now is entirely recovered.

#### Conclusions.

1. Is not tetanus a zymotic disease?
2. Can tetanic spasms be reproduced by the secretions from the wound if applied to other wounds?
3. Why did not the aconite given in the large doses, and repeated as they were, produce toxic symptoms?

4. Will this *materies morbi* arrest the physiological influence of the remedy on the system?

5. Can we fix the limit to the use of medicine in disease by the amount given to a healthy person?

This case was made so important from the large and continued doses of the aconite that I have thought proper to call the attention of some of my medical friends to it.

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